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INTEGRATED INFORMATION SUPPORT SYSTEM (IISS) VOLUME 3  
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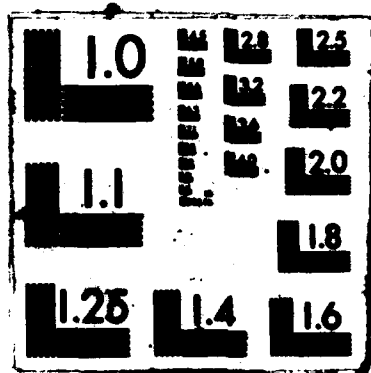
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AFVAL-TR-86-4006  
Volume III  
Part 5



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INTEGRATED INFORMATION  
SUPPORT SYSTEM (IISS)  
Volume III - IISS Configuration Management  
Part 5 - System Hardware Document

General Electric Company  
Production Resources Consulting  
One River Road  
Schenectady, New York 12345

Final Report for Period 22 September 1980 - 31 July 1985  
November 1985

Approved for public release; distribution is unlimited.

PREPARED FOR:

MATERIALS LABORATORY  
AIR FORCE WRIGHT AERONAUTICAL LABORATORIES  
AIR FORCE SYSTEMS COMMAND  
WRIGHT-PATTERSON AFB, OH 45433-6533

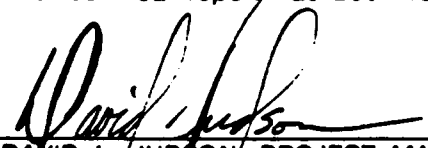
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This technical report has been reviewed and is approved for publication.

  
DAVID L. JUDSON, PROJECT MANAGER  
AFWAL/MLTC  
WRIGHT PATTERSON AFB OH 45433

5 Aug 1986  
DATE

FOR THE COMMANDER:

  
GERALD C. SHUMAKER, BRANCH CHIEF  
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7 Aug 86  
DATE

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Vol III - IISS Configuration Management  
Part 5 - System Hardware Document

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The Integrated Information Support System is a test computing environment used to investigate and demonstrate and test the concepts of information management and information integration in the contexts of Aerospace Manufacturing. Specifically, IISS addresses the problems of integration of data resident on heterogeneous databases supported by heterogeneous computers, interconnected via a Local Area Network. A common Data Model is maintained and provides the mechanism required to integrate the data.

→ to 1473

## PREFACE

This system hardware document covers the work performed under Air Force Contract F33615-80-C-5155 (ICAM Project 6201). This contract is sponsored by the Materials Laboratory, Air Force Systems Command, Wright-Patterson Air Force Base, Ohio. It was administered under the technical direction of Mr. Gerald C. Shumaker, ICAM Program Manager, Manufacturing Technology Division, through Project Manager, Mr. David Judson. The Prime Contractor was Production Resources Consulting of the General Electric Company, Schenectady, New York, under the direction of Mr. Alan Rubenstein. The General Electric Project Manager was Mr. Myron Hurlbut of Industrial Automation Systems Department, Albany, New York.

Certain work aimed at improving Test Bed Technology has been performed by other contracts with Project 6201 performing integrating functions. This work consisted of enhancements to Test Bed software and establishment and operation of Test Bed hardware and communications for developers and other users. Documentation relating to the Test Bed from all of these contractors and projects have been integrated under Project 6201 for publication and treatment as an integrated set of documents. The particular contributors to each document are noted on the Report Documentation Page (DD1473). A listing and description of the entire project documentation system and how they are related is contained in document FTR620100001, Project Overview.

The subcontractors and their contributing activities were as follows:

### TASK 4.2

#### Subcontractors

#### Role

Boeing Military Aircraft  
Company (BMAC)

Reviewer.

D. Appleton Company  
(DACOM)

Responsible for IDEF support,  
state-of-the-art literature  
search.

General Dynamics/  
Ft. Worth

Responsible for factory view  
function and information  
models.



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**Subcontractors**

**Illinois Institute of  
Technology**

**North American Rockwell**

**Northrop Corporation**

**Pritsker and Associates**

**SofTech**

**Role**

**Responsible for factory view  
function research (IITRI)  
and information models of  
small and medium-size business.**

**Reviewer.**

**Responsible for factory view  
function and information  
models.**

**Responsible for IDEF2 support.**

**Responsible for IDEF0 support.**

**TASKS 4.3 - 4.9 (TEST BED)**

**Subcontractors**

**Boeing Military Aircraft  
Company (BMAC)**

**Computer Technology  
Associates (CTA)**

**Control Data Corporation  
(CDC)**

**D. Appleton Company  
(DACOM)**

**Role**

**Responsible for consultation on  
applications of the technology  
and on IBM computer technology.**

**Assisted in the areas of  
communications systems, system  
design and integration  
methodology, and design of the  
Network Transaction Manager.**

**Responsible for the Common Data  
Model (CDM) implementation and  
part of the CDM design (shared  
with DACOM).**

**Responsible for the overall CDM  
Subsystem design integration  
and test plan, as well as part  
of the design of the CDM  
(shared with CDC). DACOM also  
developed the Integration  
Methodology and did the schema  
mappings for the Application  
Subsystems.**

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**Subcontractors**

**Role**

Digital Equipment  
Corporation (DEC)

Consulting and support of the  
performance testing and on DEC  
software and computer systems  
operation.

McDonnell Douglas  
Automation Company  
(McAuto)

Responsible for the support and  
enhancements to the Network  
Transaction Manager Subsystem  
during 1984/1985 period.

On-Line Software  
International (OSI)

Responsible for programming the  
Communications Subsystem on the  
IBM and for consulting on the  
IBM.

Rath and Strong Systems  
Products (RSSP) (In 1985  
became McCormack & Dodge)

Responsible for assistance in  
the implementation and use of  
the MRP II package (PIOS) that  
they supplied.

SofTech, Inc.

Responsible for the design and  
implementation of the Network  
Transaction Manager (NTM) in  
1981/1984 period.

Software Performance  
Engineering (SPE)

Responsible for directing the  
work on performance evaluation  
and analysis.

Structural Dynamics  
Research Corporation  
(SDRC)

Responsible for the User  
Interface and Virtual Terminal  
Interface Subsystems.

Other prime contractors under other projects who have  
contributed to Test Bed Technology, their contributing  
activities and responsible projects are as follows:

**Contractors**

**ICAM Project**

**Contributing Activities**

Boeing Military  
Aircraft Company  
(BMAC)

1701, 2201,  
2202

Enhancements for IBM  
node use. Technology  
Transfer to Integrated  
Sheet Metal Center  
(ISMC).

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<u>Contractors</u>	<u>ICAM Project</u>	<u>Contributing Activities</u>
Control Data Corporation (CDC)	1502, 1701	IISS enhancements to Common Data Model Processor (CDMP).
D. Appleton Company (DACOM)	1502	IISS enhancements to Integration Methodology.
General Electric	1502	Operation of the Test Bed and communications equipment.
Hughes Aircraft Company (HAC)	1701	Test Bed enhancements.
Structural Dynamics Research Corporation (SDRC)	1502, 1701, 1703	IISS enhancements to User Interface/Virtual Terminal Interface (UI/VTI).
Systran	1502	Test Bed enhancements. Operation of Test Bed.

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SECTION 1  
SYSTEM HARDWARE

Listed below is the computer hardware currently available on the AF VAX test bed computer.

- 20 Mb memory
- 2 300 Mb disk drives (RM05)
- 3 456 Mb disk drives (RA81)
- 1 800/1600 bpi tape drive (TU77)
- 5 40-line asynchronous data multiplexor (DZ11)
- 1 synchronous data communication channel (DUP11)
- 1 MASSEBUS adapter
- 1 UNIBUS adapter
- 1 445 lpm line printer (LP11)
- 1 180 cps console device (LA120)
- 6 VT100 terminals
- 2 VT240 terminals with color monitors

END

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